WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Tuesday, April 05, 2005

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT; PLUR=YES; OP=ADJ	
☐	L11	l10 and (potassium or sodium)	45
☐	L10	l9 and ($bromide or $bicarbonate)	45
☐	L9	l6 and l8	47
☐	L8	l7 and (polymer$ or oligomer$)	31555
☐	L7	$triazine or PIPO	41488
☐	L6	l3 and l5	267
☐	L5	l4 and (sodium or potassium or calcium)	18160
☐	L4	$hypochlorite	18904
☐	L3	l2 and (ketone or aldehyde)	5010
☐	L2	l1 and (oxidat$ or oxidiz$ or oxidis$)	6817
☐	L1	unsaturated alcohol or allyl alcohol	17020

END OF SEARCH HISTORY

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=> d his

     (FILE 'HOME' ENTERED AT 16:02:35 ON 05 APR 2005)

     FILE 'REGISTRY' ENTERED AT 16:02:43 ON 05 APR 2005
L1             STRUCTURE UPLOADED
L2          50 S L1
L3        1293 S L1 FULL

     FILE 'CAPLUS' ENTERED AT 16:04:02 ON 05 APR 2005
L4        1380 S L3
L5        8882 S ?UNSATURATED ALCOHOL? OR ?ALLYL ALCOHOL?
L6         307 S L5 AND (OXIDAT? OXIDIS? OR OXIDIZ?)
L7         135 S L6 AND (?KETONE? OR ?ALDEHYDE?)
L8       22199 S ?HYPOCHLORITE
L9       12884 S L8 AND (SODIUM OR POTASSIUM OR CALCIUM)
L10          4 S L7 AND L9
L11          4 S L7 AND L8
L12      44017 S ?TRIAZINE
L13         13 S PIPO
L14          1 S L12 AND L13
L15          1 S L11 AND L12
L16          1 S L7 AND L12
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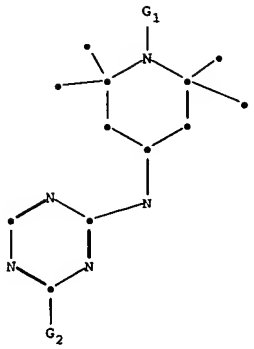
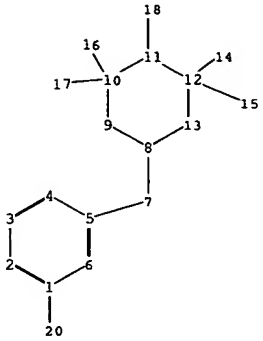
C:\Program Files\Stnexp\Queries\790.str





chain nodes :
7 14 15 16 17 18 20
ring nodes :
1 2 3 4 5 6 8 9 10 11 12 13
chain bonds :
1-20 5-7 7-8 10-16 10-17 11-18 12-14 12-15
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 8-9 8-13 9-10 10-11 11-12 12-13
exact/norm bonds :
1-20 5-7 7-8 8-9 8-13 9-10 10-11 11-12 11-18 12-13
exact bonds :
10-16 10-17 12-14 12-15
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 : 8 :

G1:H,O

G2:O,N

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:Atom 9:Atom
10:Atom 11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 16:CLASS 17:CLASS
18:CLASS 20:CLASS

L10 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:610399 CAPLUS
DOCUMENT NUMBER: 139:164341
TITLE: A process for the oxidation of **unsaturated alcohols** to **aldehydes** and **ketones** by hypochlorites, using N-(2,2,6,6-tetraalkyl-4-piperidinyl-N-oxyl)-2-amino-1,3,5-triazine derivatives, e.g., Chimassorb 944 and 2020 N-oxyl derivatives such as PIPO, as catalysts
INVENTOR(S): Walther, Eric
PATENT ASSIGNEE(S): Firmenich SA, Switz.
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2003064362	A1	20030807	WO 2003-IB139		20030115
W: JP, US					
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR					
EP 1472207	A1	20041103	EP 2003-734786		20030115
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK					
US 2004064000	A1	20040401	US 2003-668790		20030922
PRIORITY APPLN. INFO.:			WO 2002-IB304	A	20020129
			WO 2003-IB139	W	20030115

OTHER SOURCE(S): CASREACT 139:164341; MARPAT 139:164341

AB The invention relates to the field of organic synthesis, and more precisely to a process for the synthesis of unsatd. **aldehydes** or **ketones** by oxidation of the corresponding unsatd. alcs. In particular, the oxidation is characterized by use of a **hypochlorite** salt and a catalytic amount of a N-(2,2,6,6-tetraalkyl-4-piperidinyl-N-oxyl)-2-amino-1,3,5-triazine derivative, preferably an N-oxyl derivative of the polymers known under the trademarks Chimassorb 944 or Chimassorb 2020. A known example of such an N-oxyl derivative is the agent PIPO, which is an N-oxyl derivative of Chimassorb 944. Claims cover the oxidation of alcs. R1CH(OH)R2 [R1 = H, C1-20 linear, branched, or cyclic (un)saturated hydrocarbyl with optional substituents and/or replacement with 1-2 atoms of N or O; R2 = similarly described C2-20 alk(en/adien/atrien)yl group; or R1R2 forms a C5-20 unsatd. ring as described; substituents = C1-15 linear, branched, or cyclic alkyl, alkenyl, or aromatic] to corresponding **aldehydes** and **ketones** R1COR2, using hypochlorites M(OCl)n [M = alkali or alkaline earth metal; n = 2 or 1] and a catalytic amount of an oxyl derivative as described above. In contrast to prior art oxidns. of unsatd. compds. with hypochlorites, the new process gives characteristically high yields of desired products, as well as low yields of chlorinated byproducts (generally < 5%, frequently < 3%). In a general oxidation method, 1 equiv alc. in EtOAc containing 0.05 equiv PIPO and 0.01 equiv aqueous NaBr was treated with 1.1-1.45 equiv aqueous NaOCl containing 2 weight% added NaHCO3. After stirring 15-45 min, phase separation occurred, and the product was isolated by concentration and bulb-to-bulb distillation For instance, 3-phenyl-2-propen-1-ol gave 99.5% conversion and 90% yield of 3-phenyl-2-propenal. In contrast, a

literature method for the same reaction using a monomeric oxyl catalyst (4-methoxy-2,2,6,6-tetraalkylpiperidine-N-oxyl) gave only 79% conversion of alc. and 20% yield of **aldehyde**. In addnl. examples, conversions were typically 85-100% and yields were typically in the high range of 70-100%. Isophorone was prepared from isophorol in 87% conversion and 62% yield.